Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2019-01-23-83** **Date: 07-12-18**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer's Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	04-12-18
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	05-12-18
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.85	–
2	Finess by Air permeablity method (m^2/kg,Min)	348.6	225m^2/kg, Min
3	Density (gm/cc)	3.15	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	135 minutes	Not less than 30 minutes
6	Final Setting time	245 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

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Authorized Signatory
Quality Manager

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2019-01-23-83**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. **Date: 02-01-19**

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 04-12-18

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 6, Determination of Compressive Strength, Clause 6

Date of test : 05-12-18

Environmental Conditions during test : Temperature: 26˚C
Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

Note:
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Vidyaranyapura Sub Division
BBMP, Bangalore-97

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Authorized Signatory
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2019-01-23-83** **Date: 07-12-18**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer's Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	04-12-18
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	04-12-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80mm	0	0	0.0	100	100
2	40 mm	215	215	1.4	98.6	90-100
3	20 mm	7455	7670	51.1	48.9	30-70
4	10 mm	4266	11936	79.6	20.4	10-35
5	4.75 mm	2844	14780	98.5	1.5	0-5
6	Pan	220	15000	100.0	0	---

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2019-01-23-83** **Date: 07-12-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.9	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.3	
3	Specific Gravity	2.64	–
4	Bulk Density(Loose) (Kg/l)	1.41	–
5	Bulk Density(Compacted) (Kg/l)	1.47	–
6	Water Absorption(%)	0.23	–

Note:

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BBMP, Bangalore - 97

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2019-01-23-83** **Date: 06-12-18**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	04-12-18
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	04-12-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	225	225	4.5	95.5	90-100
3	10 mm	2845	3070	61.4	38.6	25-55
4	4.75 mm	1745	4815	96.3	3.7	0-10
5	Pan	185	5000	100	0	–

Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore - 97

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2019-01-23-83**

Date: 06-12-18

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.1	
3	Specific Gravity	2.68	–
4	Bulk Density(Loose) (Kg/l)	1.43	–
5	Bulk Density(Compacted) (Kg/l)	1.49	–
6	Water Absorption(%)	0.23	–
7	Aggregate crushing Value(%)	22.9	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.7	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:

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Authorized Signature
Quality Manager

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2019-01-23-83** **Date: 06-12-18**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 04-12-18

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 04-12-18

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2019-01-23-83** **Date: 06-12-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.63	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	3.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:

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Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Authorized Signatory
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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST RESULTS OF STEEL

Lab ID	:	**CP-2019-01-23-83** **Date: 13-12-18**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer's Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	12-12-18
Sample Type	:	Sunvik
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.
Date of test:	:	12-12-18

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	Sunvik	Fe500	8	0.391	512	652	20.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	10	0.616	528	672	20.0%	Satisfactory	Satisfactory
3	Sunvik	Fe500	12	0.889	544	664	20.0%	Satisfactory	Satisfactory

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Authorized Signatory
Quality Manager

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2019-01-23-83** **Date: 22-12-18**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 18-12-18

Sample Type /Size : Precast Cover Slab

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete

Date of test : 18/12/2018

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	200.51	250.48	2.116	31570	243.9	7.7	7.2	9.0
2	Cover Slab-2	200.49	250.52	2.122	31564	242.7	7.7	7.2	8.9
3	Cover Slab-3	200.50	250.51	2.118	31567	243.3	7.7	7.2	9.0

Note:

The results pertain to the samples received and tested.

All information furnished by the Customer/Representative

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2019-01-23-83** **Date: 02/01/2019**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer's Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	28-12-18
Customer ID	:	RMC
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	02/01/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RMC	M20	26/12/2018	02/01/2019	149.29 X 151.01 X 150.97	22544	**8.323**	419.9	18.6	18.5
2	RMC	M20	26/12/2018	02/01/2019	149.42 X 150.68 X 151.27	22514	**8.958**	410.5	18.2	
3	RMC	M20	26/12/2018	02/01/2019	149.15 X 151.80 X 150.98	22641	**8.330**	422.9	18.7	

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Assistant Executive Engineer
Vidyaranyapura Sub Division
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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-01-23-83**

Date: 23/01/2019

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 28-12-18

Customer ID : RMC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/01/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RMC	M20	26/12/2018	23/01/2019	151.01 X 150.29 X 150.30	22696	**8.871**	532.0	23.4	23.3
2	RMC	M20	26/12/2018	23/01/2019	150.28 X 150.81 X 149.26	22664	**8.395**	514.6	22.7	
3	RMC	M20	26/12/2018	23/01/2019	150.44 X 149.11 X 149.85	22432	**8.905**	533.2	23.8	

Note:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL PRO Sig..... Date..... BANGALORE

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-01-23-83** **Date: 02/01/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 28-12-18

Customer ID : RMC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/01/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RMC	M20	26/12/2018	02/01/2019	149.19 X 151.23 X 150.62	22562	**8.615**	415.8	18.4	18.6
2	RMC	M20	26/12/2018	02/01/2019	149.32 X 150.67 X 151.32	22499	**8.262**	423.6	18.8	
3	RMC	M20	26/12/2018	02/01/2019	149.05 X 149.73 X 151.08	22318	**8.766**	415.5	18.6	

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL PRO Sig..... Date..... BANGALORE

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-01-23-83** **Date: 23/01/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 28-12-18

Customer ID : RMC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/01/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RMC	M20	26/12/2018	23/01/2019	150.31 X 149.15 X 151.07	22418	**8.326**	525.0	23.4	23.1
2	RMC	M20	26/12/2018	23/01/2019	150.46 X 149.75 X 151.91	22531	**8.007**	509.8	22.6	
3	RMC	M20	26/12/2018	23/01/2019	150.05 X 151.01 X 150.26	22658	**8.091**	528.3	23.3	

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Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-01-23-83** **Date: 02/01/2019**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 28-12-18

Customer ID : RMC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/01/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RMC	M20	26/12/2018	02/01/2019	149.53 X 149.52 X 150.65	22358	**8.102**	415.2	18.6	18.4
2	RMC	M20	26/12/2018	02/01/2019	149.97 X 150.94 X 150.89	22636	**8.642**	415.2	18.3	
3	RMC	M20	26/12/2018	02/01/2019	151.78 X 151.56 X 150.79	23004	**8.849**	418.5	18.2	

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Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2019-01-23-83**

Date: 23/01/2019

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 Works) 1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer's Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 28-12-18

Customer ID : RMC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/01/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RMC	M20	26/12/2018	23/01/2019	150.03 X 151.98 X 149.47	22802	**8.135**	535.2	23.5	23.0
2	RMC	M20	26/12/2018	23/01/2019	150.46 X 149.28 X 149.99	22461	**8.842**	502.3	22.4	
3	RMC	M20	26/12/2018	23/01/2019	151.71 X 151.90 X 149.64	23045	**8.744**	533.1	23.1	

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Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2019-01-23-83** **Date: 09-01-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 works)1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-01-19
Type of Mix	:	BC-Plant (Bituminous Concrete)
Date of test	:	07-01-19
Oven Dry Weight	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

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Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Authorized Signatory
Quality Manager

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : **CP-RW-2019-01-23-83** **Date: 10-01-19**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 works)1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 07-01-19

Type of Mix : BC(Bitumenous Concrete)

Date of test : 07-01-19

Type of Binder : 60/70

% of Binder Used : 5.0%

Weight of Aggregate : 200.0 gm

Weight of Binder : 10.0 gm

Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : **CP-RW-2019-01-23-83** **Date: 10-01-19**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 works)1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 07-01-19

Type of Mix : BC (Bituminous Concrete)

Date of test : 07-01-19

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

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Authorized Signatory
Quallity Manager

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2019-01-23-83** **Date: 10-01-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 works)1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	07-01-19
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	07-01-19

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL PRO BANGALORE Sig..... Date.....

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2019-01-23-83** **Date: 11-01-19**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 works)1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Date of Receipt : 09-01-19

Type of Mix : BC (Bituminous Concrete)

Date of test : 09-01-19

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	474	472
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	5.20	5.6
4	Average percentage	%	5.4	

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

Lab ID : **CP-RW-2019-01-23-83** **Date: 11-01-19**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.6	62.4	53-71
2.36	88	266	56.1	43.9	42-58
1.18	29	295	62.2	37.8	34-48
0.6	11	306	64.6	35.4	26-38
0.3	46	352	74.3	25.7	18-28
0.15	45	397	83.8	16.2	12-20
0.075	55	452	95.4	4.6	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 472

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	14.0	86.0	70-88
4.75	112	178	37.7	62.3	53-71
2.36	88	266	56.4	43.6	42-58
1.18	29	295	62.5	37.5	34-48
0.6	11	306	64.8	35.2	26-38
0.3	46	352	74.6	25.4	18-28
0.15	45	397	84.1	15.9	12-20
0.075	55	452	95.8	4.2	4-10

Note:-

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Vidyaranyapura Sub Division
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CIVIL Pro Sig..... Date..... BANGALORE

End of Report

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2019-01-23-83** **Date: 17-01-19**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Address : Vidyaranyapura Sub Division, BBMP, Bangalore.

Project Name : Package-3 (including 4 works)1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.

Agency : Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092

Customer Reference : BBMP/EE/BTP/WO/90/2018-19

Source of Sample : Sample supplied by Agency

Date of Receipt : 15-01-19

Type of Mix : BC (Bituminous Concrete)

Date of test : 15-01-19

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	472	473
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	5.60	5.40
4	Average percentage	%	5.5	

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

CIVIL PRO BANGALORE Sig..... Date.....

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

Lab ID : **CP-RW-2019-01-23-83** **Date: 17-01-19**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 472

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	14.0	86.0	70-88
4.75	112	178	37.7	62.3	53-71
2.36	88	266	56.4	43.6	42-58
1.18	29	295	62.5	37.5	34-48
0.6	11	306	64.8	35.2	26-38
0.3	46	352	74.6	25.4	18-28
0.15	45	397	84.1	15.9	12-20
0.075	55	452	95.8	4.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 473

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	14.0	86.0	70-88
4.75	112	178	37.6	62.4	53-71
2.36	88	266	56.2	43.8	42-58
1.18	29	295	62.4	37.6	34-48
0.6	11	306	64.7	35.3	26-38
0.3	46	352	74.4	25.6	18-28
0.15	45	397	83.9	16.1	12-20
0.075	55	452	95.6	4.4	4-10

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore-97

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

End of Report

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-RW-2019-01-23-83** **Date: 05-01-19**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub Division, BBMP, Bangalore.
Project Name	:	Package-3 (including 4 works)1)Improvements to Roads and Drains at V P Layout in Ward No.09, Vidyaranyapura. 2)Improvements to Roads and Drains from 1st, 2nd and 3rd Cross Jai Hanuman Layout and Budha Jyothi Layout in Ward No.09, Vidyaranyapura. 3)Improvements to Roads and Drains from Sampige Road to Mramma Temple in Ward No.09, Vidyaranyapura. 4)Improvements to Roads and Drains at Guudharshan Layout in Ward No.09, Vidyaranyapura.
Agency	:	Sri.Alankar K.B, # 12, MSV Network Road, Near Shobha Apartment, Amruthahalli, Sahakaranaga (P) Bangalore-560092
Customer's Reference	:	BBMP/EE/BTP/WO/90/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	04-01-19
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)
Date of test	:	04-01-19

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**62**	60 to 70
2	Softening Point, °C	**51.4**	Min. 40°C
3	Ductility, cm	**95**	Min. 75cm
4	Flash point, °C	**244**	Min. 220°C
	Fire point, °C	**272**	

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Vidyaranyapura Sub Division
SBMP, Bangalore - 97

CIVIL Pro BANGALORE Sig. Date

****End of Report****